



The
University
Of
Sheffield.

Automatic
Control and
Systems
Engineering

The Department of Automatic Control & Systems Engineering
is pleased to announce the following seminars:

Wednesday, 23 October 2019

3pm - 5pm*

LT 7 - The Diamond*

Professor Andrew Adamatzky

"Liquid Computers"

University of the West of England

Bristol

Abstract

A liquid can be used to represent signals, actuate mechanical computing devices and to modify signals via chemical reactions. We give an overview of liquid based computing devices developed over hundreds of years. These include hydraulic calculators, fluidic computers, micro-fluidic devices, droplets, liquid marbles and reaction-diffusion chemical computers.

Biography

Andrew Adamatzky is Professor of Unconventional Computing and Director of the Unconventional Computing Laboratory, Department of Computer Science, University of the West of England, Bristol, UK. He does research in molecular computing, reaction-diffusion computing, collision-based computing, cellular automata, slime mould computing, massive parallel computation, applied mathematics, complexity, nature-inspired optimisation, collective intelligence and robotics, bionics, computational psychology, non-linear science, novel hardware, and future and emergent computation.

AND

Professor Schi-ichiro Nomura

"Molecular Robotics"

Tohoku University

Japan

Abstract

Construction of molecular robot is giant step to understand and to design the living-like system by engineering. Key of the research is to integrate artificially designed "programmable" devices for one system. Here I introduce some models that equip a protein synthesis system based on gene expression, a model that expresses a membrane protein to function the membrane, and performs a substance exchange with a living cell, amoeba type model shifting their shape in response to signal molecules.

Biography

Shin-ichiro NOMURA is Associate Professor of TOHOKU University, Japan and Visiting researcher of the Unconventional Computing Laboratory, University of the West of England, Bristol, UK. He does research in molecular robotics, artificial cell engineering, applied biophysics.

****Please note the change in time and venue to the usual schedule.***